Geometry Date_____ 2.4 Assignment: Algebraic Proofs (pp 96-98)

1. What is your name?

Complete each statement to show an example of the stated property.

2. Multiplication Property of Equality: If BD = 6, then _____(BD) = 2.

1/3

3. Transitive Property of Equality: If $m\angle ABC = m\angle DEF$ and _____ = $m\angle STO$, then _____.

m∠DEF, m∠ABC = m∠STO

4. Reflexive Property of Equality: HS = _____.

HS

5. Substitution Property of Equality: If RL = 7.5 and LT = 10 – RL, then _____.

LT = 10 - 7.5

6. Symmetric Property of Equality: If $m\angle MCS = m\angle DBA$, then _____.

m∠DBA = m∠MCS.

Complete each reason for the proof.

7.

Statement	Reason
-2(3x – 4) = 3x + 12	Given
-6x + 8 = 3x + 12	
-9x + 8 = 12	
-9x = 4	
$x = -\frac{4}{9}$	

8.

Statement	Reason

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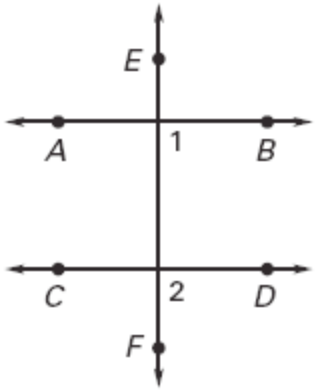
9 = 4x – 3(x – 2)	Given
9 = 4x – 3x + 6	
9 = x + 6	
3 = x	
x = 3	

9

Statement	Reason
AB = BC	Given
BC = BC	
AB + BC = CD + BC	
AB + BC = AC	
CD + BC = BD	
AC = BD	

Write a two column proof to show that the following is true.

10. If $\overleftrightarrow{AB} \perp \overleftrightarrow{EF}, \overleftrightarrow{CD} \perp \overleftrightarrow{EF},$ then $m\angle 1 = m\angle 2.$



Various

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11. If $m\angle 1 = 40°$ and $m\angle 2 = 50°$, then the angles are complementary.

Various.

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Review.

Find the distance between the two points. Round your result to two decimal places. (Chapter 1 Section 3).

12. (-7, 6) & (2, 0)

16.82

13. (9, -1) & (2, -6)

8.60

14. (1, 1) & (-1, 11)

10.20

15. (7, 10) & (1, 5)

7.81

You are given an endpoint and the midpoint of a line segment. Find the coordinates of the other endpoint. Each midpoint is denoted by M(x, y). (Chapter 1 Section 5)

16. $B(5,7)$
$M(-1,0)$

(-7, -7)

17. $C(-4,-5)$
$M(3,-6)$

(10, -7)

18. $F(0,9)$
$M(6,-2)$

(12, -13)

19. $Q(-1,14)$
$M(2,7)$

(5, 0)

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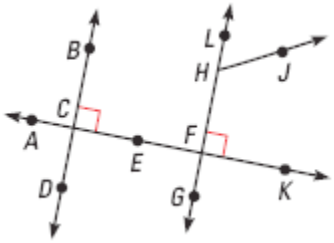
20. Given that $m\measuredangle A = 48°$, what are the measures of the complement and the supplement of $\measuredangle A$? (Chapter 1 Section 6)

42° & 132°

Use the diagram shown to determine whether the statement is true or false. (Chapter 2 Section 2)



21. F_____ $\overline{BC} \perp \overline{FG}$

22. T_____ $\measuredangle ECB \cong \measuredangle ACD$

23. F_____ $\measuredangle JHL$ & $\measuredangle JHF$ are complementary.

24. T_____ $\overleftrightarrow{AK} \perp \overleftrightarrow{BD}$